

Examination of physical education and sports teacher candidates' views on combat sports

Cüneyt Taşkin^{1*} and Tolga Kaan Bahadır²

¹Kırkpınar Faculty of Sports Sciences, Trakya University, Edirne, Turkey.

²Faculty of Sport Sciences, Kocaeli University, Turkey.

Accepted 14 September, 2022

ABSTRACT

This study aims to examine the opinions of prospective teachers studying at the faculty of sports sciences about combat sports according to various variables. For this purpose, the "Attitude Scale towards Fighting Sports" created by Kayapınar et al. in 2016 was used. The population of the research consists of 1330 students studying at Trakya University Kırkpınar Faculty of Sports Sciences. The confidence interval of the study was considered 95% ($p < 0.05$). A total of 343 teacher candidates were reached by random sampling method. According to the "gender and training year" variables of the sample group, the scores they got from the Attitude Scale towards Fighting Sports were analyzed using the SPSS 25.0 package program. The normality distributions of the data were examined by examining the kurtosis and skewness values. Cronbach Alpha value was used in the reliability calculation of the dimensions. The Mann-Whitney U test was used to analyze the "gender" variable, one of the independent variables of the research, and the Kruskal-Wallis test for the "training year" variable. Rosenthal formula ($r=Z/\sqrt{N}$) was used to calculate the effect size of the meaningful results obtained with the test statistics. The effect sizes of the tests with statistically significant difference ($p < 0.05$) were calculated. As a result, significant difference was found in the "satisfaction" sub-dimension of the research scale according to the gender variable, and in the pleasure, incentive and all scale dimensions according to the athlete's background ($p < 0.05$).

Keywords: Combat sports, teacher candidates, physical education.

*Corresponding author. E-mail: cuneytaskin@trakya.edu.tr. Tel: +905077648760.

INTRODUCTION

Education is a struggle and self-sacrifice, where input and output are evaluated as behavioral changes in the process, and which requires a disciplined struggle from programming to teaching, from teacher to administrator, whose source, producer, employee and product are human. When we think of struggle, the first thing that comes to our mind is sports. Sport is a discipline and a culture (Yücel, 2003). In the most general sense, sports are educational and entertaining activities that provide the development of physical and mental abilities, which are generally based on competition, with their own rules (The World Taekwondo Federation [WTF], 1986). Sport is divided into 2 groups, that is, individual and team sports.

An individual needs to do a sport in which he can demonstrate his physical, motoric and mental performances, which includes individual struggle, and

while doing this, subjecting himself to a certain sportive training leads him to a sport branch in which he expresses himself. Whether an athlete will continue to do sports is closely related to that person's learning motives (Kayapınar et al., 2016).

According to Eserpek (1981, cited in Canakay, 2006), a human is a complex entity that is the product of interaction with other people in the society and social groups of which he is a part. From the moment of birth, human beings interact with both their physical and social environment and socialize in a way that develops personality traits, attitudes, behavior patterns and worldview in line with the expectations of the interaction situation. Attitudes are dynamic, persistent, stimulating and motivating. Attitudes direct people's lives by influencing their thoughts, feelings and behaviors

(Tavşancıl, 2002).

The concept of attitude is seen as a structure, it cannot be observed directly because attitude is characterized as a "pre-thought style" or a "spiritual and nervous preparation" (Keklik, 2010). Attitude is an emotional readiness or tendency of individuals to accept or reject a particular person, group, institution, or thought. An individual's attitude, as a part of his personality, affects his hatred, love and generally all his behavior (Özgüven, 1999). Attitudes are not innate; they are acquired through experience. Attitudes are learned through experience. They are not temporary; they persist for a certain period of time. In the human-object relationship, a bias determined by attitudes emerges. The formation of a positive or negative attitude towards an object is possible only as a result of comparing that object with other objects (Tavşancıl, 2002). Attitudes in light of the above information include the concepts of satisfaction (satisfaction), pleasure (pleasure) and motivation (incentive).

According to the Turkish Language Association (2015), satisfaction is defined as the state of satisfying some wishes, being satisfied, and being content. Satisfaction is the satisfaction or dissatisfaction of the athletes with the situations in sports. In order to develop and change attitudes positively, relevant research in this field is fundamentally important (Ramazanoğlu and Çoban, 2004). In the study of Ramazanoğlu and Çoban (2004), it was determined that the only issue that taekwondo players were dissatisfied with was wages.

Pleasure is defined as the feeling of contentment arising from not getting incentives for something (TDK, 2015) and affects the attitudes of individuals positively. For example, when an athlete learns the techniques of the sport, he/she performs, he/she is motivated to know if pleasure is among the reasons why he/she only enjoys this process and does the sport (Erdem, 2008). Incentive encourages and motivates (TDK, 2015). It is to make an individual want to do something. In this context, these concepts, which cannot be observed directly and are included in attitudes, are patterned with attitudes and attitudes are measurable.

METHOD

Model, sampling and scale

As a model in the research, the survey method, in which the views of the participants about a subject or event or their characteristics such as interests, skills, abilities and attitudes were determined. The research was carried out using the descriptive survey model. The universe of the research consisted of 1283 teacher candidates studying at Kırkpınar Faculty of Sports Sciences, Trakya University. For the sample group, 343 teacher candidates were chosen based on chance and represented the

population of the research.

The 95% confidence interval ($\alpha = 0.05$) was taken as the margin of error for the sample selection. According to Yazıcıoğlu and Erdoğan (2004), at least 218 elements are considered sufficient to represent a universe with 1283 elements at a sampling error of ± 0.05 . The scale used as a data collection tool in the research; Kayapınar et al. (2016) developed the "Attitude Scale Towards Combat Sports" with three sub-dimensions (satisfaction, pleasure, motivation). Data were collected by asking 23 questions in 3 sub-dimensions, 9 questions on satisfaction, 6 questions on pleasure, and 8 questions on motivation. The validity study of the scale was done with the AMOS program, and the data analysis was done with the SPSS program.

Validity and reliability study of the scale used

The construct validity of the scale used was checked with the IBM AMOS 24 program. In this process, confirmatory factor analysis was applied. Confirmatory factor analysis, structural equation modeling, is widely used in psychology, sociology, educational research, political science, marketing, etc. It is a technique used in research (Dow et al., 2008). It is a combination of factor analysis and regression analysis. It tests the conformity of the estimated covariance matrix created according to the theoretical model to the covariance matrix of the observed data (Hox and Bechger, 1995). In other saying, the processes of checking whether the scale can measure the feature it wants to measure, the formation of its factors and whether it is suitable for our culture were carried out.

The results of the model should be examined through fit indices (Albright and Park, 2009). These fit indices take names such as chi-square (χ^2), chi-square/degrees of freedom (χ^2/sd), absolute fit indices (GFI, AGFI), root mean square error of approximation (RMSEA), and residual-based fit index (RMR). There is a wide variety of fit indices, but it is reported that there is no complete consensus on which of these fit indices will be accepted as standard (Munro, 2005; Şimşek, 2007). Table 1 shows the fit indices and normal values of the attitude scale towards combat sports.

Fit indices were determined as a good fit and acceptable fit in many pieces of literature and formed a criterion for validating the model. (Munro, 2005; Schreiber et al., 2006; Şimşek, 2007; Hooper et al., 2008; Schumacker and Lomax, 2004; Waltz et al., 2010; Wang and Wang, 2012). When we look at the fit indices of the sub-dimensions of the research scale; χ^2 value good fit (2.21), good fit (1.806), GFI value acceptable fit (0.912), RMSEA value was obtained as good agreement (0.049), and RMR value was obtained as good agreement (0.049). It was found that the scale showed an acceptable fit when used alone (Table 1). In general, it

Table 1. Goodness of fit indices and normal values.

Index	Good fit	Acceptable fit	ASTCS scale
χ^2 "p" Value	$p > 0.05$	-	2.21
χ^2 / df	< 3	< 5	1.806*
GFI	> 0.95	> 0.90	0.912*
AGFI	> 0.95	> 0.90	0.89
CFI	> 0.95	> 0.90	0.886
RMSEA	< 0.05	< 0.10	0.049*
RMR	< 0.05	< 0.10	0.049*

was determined by confirmatory factor analysis that the scale we used in the study was compatible with the original and served its purpose. The diagram of the model obtained by confirmatory factor analysis is given in Figure 1.

In calculating the reliability of the scale, which consists of a total of 23 items under three sub-dimensions, to determine the internal consistency coefficients, the Cronbach Alpha reliability coefficients, which are an

internal consistency indicator, were calculated. The obtained values are shown in Table 2.

When the values given in Table 2 are examined, we can state that the sub-dimensions of the 23-item scale have high reliability and the result obtained from the whole scale is of high reliability and can be used alone. The items in the scale were arranged as a five-point Likert rating scale (Totally Agree–Agree–Undecided–Disagree–Strongly Disagree).

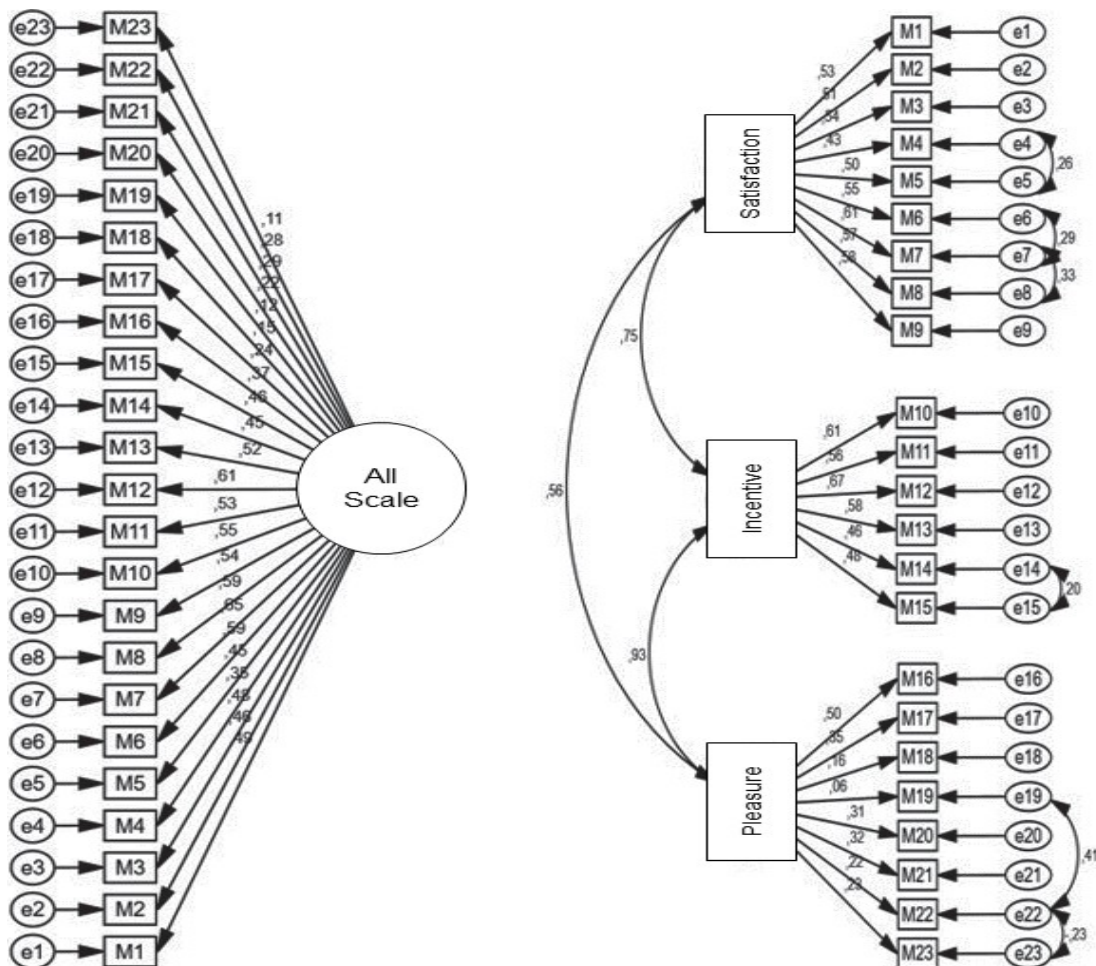


Figure 1. Confirmatory factor analysis diagrams.

Table 2. ASTCS scale reliability study.

Scale sub-dimensions	Cronbach alpha coefficients
Satisfaction	0.79
Pleasure	0.73
Incentive	0.79
All scale	0.77

Analysis of data

In order to determine whether the data of the study were normally distributed or not, the measurements of kurtosis and skewness were examined. According to this; Studies have shown that the distribution with a significance result above 0.05 is normal, while the distribution below 0.05 is not normally distributed (Tabachnick and Fidell, 2007; George and Mallery, 2010). According to the results of the research, skewness and kurtosis values were not between -1.96 and +1.96. Kolmogorov-Smirnov test values also showed that the distribution was not normal. It was decided to use non-parametric tests for the data. According to independent variables; Mann-Whitney U tests were applied for gender and Kruskal-Wallis tests were applied for training age.

FINDINGS

The gender of the teacher candidates participating in the research; female $n = 251$, male $n = 92$, training age; 5 years and less $n = 84$, 6-10 years $n = 156$, 11-15 years n

$= 74$, 16 years and over $n = 29$ formed the demographic characteristics of the sample. The results of the Mann-Whitney U test, which was conducted to examine whether there is a statistically significant difference between the answers given to the scale by the pre-service teachers according to their gender, are shown in Table 3.

A statistically significant difference was found between the answers given by the candidates according to gender, only between the satisfaction group ($p < 0.05$). Rosenthal formula ($r = Z/\sqrt{N}$) was used to calculate the effect size of the meaningful results obtained with the test statistics (Rosenthal and Rosnow, 1991). The effect value was calculated as 0.121 according to the "satisfaction" sub-dimension with a significant difference. Since the result found is less than 0.3, in the satisfaction sub-dimension, the female variable has a low effect on the male variable.

The result of the Kruskal-Wallis test, which was conducted to see whether there is a statistically significant difference between the answers given to the scale by the pre-service teachers according to their training age, is shown in Table 4.

Table 3. Examination of sub-dimensions of sports science students by gender.

Variables		N	Mean rank	U	p	Effect size
Satisfaction	Female	251	179.29	9716.000	0.024*	0.121
	Male	92	152.11			
Pleasure	Female	251	169.96	11033.500	0.525	-
	Male	92	177.57			
Incentive	Female	251	166.46	10156.000	0.087	-
	Male	92	187.11			
All Scale	Female	251	171.71	11474.000	0.929	-
	Male	92	172.78			

*: $p < 0.05$.

When the one-way analysis of variance pertaining to the variable of the department studied by sports sciences students was examined, a statistically significant difference was found between the answers given by the students to the scale in affective, behavioral, cognitive

dimensions and the whole scale dimension ($p < 0.05$). According to the Post Hoc tests, in the affective dimension, a differentiation was determined between physical education teaching, sports management and recreation departments. It was determined that the

Table 4. Significant difference according to training ages.

Variables		N	Mean rank	X ²	df	p
Satisfaction	5 years -	84	156.85	6.721	3	0.081
	6-10 years	156	174.55			
	11-15 year	74	192.49			
	16 years +	29	149.91			
Pleasure	5 years -	84	156.85	9.670	3	0.022*
	6-10 years	156	174.55			
	11-15 years	74	192.49			
	16 years +	29	149.91			
Incentive	5 years -	84	156.85	9.378	3	0.025*
	6-10 years	156	174.55			
	11-15 years	74	192.49			
	16 years +	29	149.91			
All Scale	5 years -	84	156.85	12.503	3	0.006*
	6-10 years	156	174.55			
	11-15 years	74	192.49			
	16 years +	29	149.91			

*: $p < 0.05$.

department the students read had a moderate effect ($n^2 = 0.19$) on the answers given to the affective dimension.

While the source of differentiation in the behavioral dimension is seen between physical education teaching and other departments, the department variable has a moderate effect ($n^2 = 0.16$) on the dimension. In the cognitive dimension, the differentiation was between physical education teaching and other departments, and the effect level was found to be low ($n^2 = 0.10$).

According to the test results, there was no difference in the answers given by the pre-service teachers to the

satisfaction dimension, while a significant difference was found between the dimensions of pleasure, incentive, and all scales ($p < 0.05$).

Mann Whitney-U test was used to determine the direction of the differences between the levels of the independent variable. Six Mann Whitney-U tests were applied for each dimension and Bonferroni correction [$\alpha = (0.05/6) = 0.008$] was applied to reduce the amount of Type 1 error. Therefore, the level of significance between the groups was taken as $\alpha = 0.008$. Variables with significant differences and their effect values are shown in Table 5.

Table 5. Source of difference.

Variables	Training age	N	Mean rank	U	p	Effect size
Pleasure	5 years -	84	69.64	2279.500	0.004*	0.231
	11-15 years	74	90.70			
Incentive	5 years -	84	68.72	2224.000	0.002*	0.224
	11-15 years	74	91.92			
All Scale	5 years -	84	68.51	2185.000	0.004*	0.256
	11-15 years	74	91.97			

* $p < 0.008$.

According to Table 5, the responses given to the dimensions of pleasure, incentive and all scales differ statistically between the groups whose training age is 5

years or less and the groups whose training age is 11 to 15 years ($p < 0.008$). Rosenthal formula ($r = Z/\sqrt{N}$) was used to calculate the effect size of these variations. The

effect values of the training age with a significant difference were calculated as 0.231, 0.224 and 0.256 according to the "5 years and 11-15 years groups" ($p < 0.008$). Since the results found are close to 0.3, it has been determined that pleasure, incentive and all scale dimensions have a moderate effect on the "5 years and 11-15 years" groups.

DISCUSSION AND CONCLUSION

The scale used in the research was first subjected to validity and reliability tests. The results of confirmatory factor analysis confirmed the view that the scale is valid with good fit and can be used in our population culturally. Cronbach Alpha values were used for the reliability test. The satisfaction dimension was 0.79, Jun 0.73, Incentive 0.79, and the whole scale 0.77, indicating that the scale's degree of being free of errors is good and that it makes a reliable measurement. In a similar study, Pehlivan (2014) stated that the scale showed an acceptable fit and that the whole scale had a confidence level of 0.72.

When we examine the attitudes of teacher candidates towards combat sports according to the independent variables of gender and training age, a statistically significant difference was found in the "satisfaction" sub-dimension of the research scale according to the gender variable. When the difference found is examined by gender, it was concluded that men are more combative than women, and they experience more satisfaction as a result of the struggle. Kaiseler et al. (2009) in their study with the same scale stated that men's emotional and life control is significantly higher than women's. In a similar study, Vealey (1988) stated that the sense of control is higher in men.

When we examine it according to the training age, significant differentiation was found in the dimensions of pleasure, incentive and all scales according to the athlete backgrounds of the pre-service teachers. It has been observed that the pleasure and incentive taken from the struggle is higher in the candidates with a higher athlete background. In addition, it was observed that male teacher candidates had a higher average than female teachers and they developed a positive view of combat sports. It has been determined that the pleasure and satisfaction from sports and struggle increase with the increasing age of sports experience. Similar results are found in many studies; Kaiseler et al. (2009) in his study stated that the mental endurance levels of the athletes increased with the increase in their training age. Connaughton et al. (2008) in his study concluded that older athletes have higher levels of mental toughness than younger athletes and that athletes with more training age have higher mental toughness scores than inexperienced or less training age athletes.

Pehlivan (2014) reached the following conclusions in his research; while no significant difference was found

according to the gender of the athletes, it was stated that the mental endurance levels differ according to their age and training age and that the mental endurance increases as the age increases.

When the scale is used alone as a whole, it was concluded that the pre-service teachers with 5 years or fewer training years and the candidates who have done sports for 11-15 years differ statistically significantly. This differentiation has been interpreted as a positive perspective on combat sports over the increase of years.

With the increase in pleasure and satisfaction from combat sports, an increase in the mean degree of motivation of teacher candidates was determined. Education is all about struggle and teachers work devotedly in this difficult struggle. Teachers with high cognitive and physical motivation are expected to get high efficiency from this training process. Teachers with high mental resilience display more moderate, patient and self-controlled behaviors during the course of education. Based on the results of the research of people who have dealt with combat sports, it can be said that with the passing years, they have become more controlled, willing and satisfied with their work.

From this point of view, it is known that physical education and sports teachers have experienced various sports that require struggle in the individual and team sports lessons they have taken during their undergraduate period. The fact that these experiences will make a positive return to them when they start the teaching profession is in line with the objectives of our research. Not only the physical education branch, but all teaching branches should participate in various sports activities and experience the feeling of struggle during the undergraduate period.

Sport is like life, there is a different challenge at every moment and there are learned and experienced skills that need to be done in the face of this difficulty. Teacher candidates who will join the education family need mental experience to cope with difficulties. If this study gives an idea to help program development experts, it is necessary to include applied sports lessons, which all teacher candidates will struggle with by participating in sports activities in their university life, into their curriculum.

REFERENCES

- Albright, J. J., and Park, H. M. (2009). Confirmatory Factor Analysis Using Amos, LISREL, Mplus, SAS/STAT.
- Canakay, U. (2006). Developing an Attitude Scale for a Music Theory Course. Proceedings of the National Music Education Symposium, Pamukkale University Faculty of Education Denizli, 26-28 April, s.297-310.
- Connaughton, D., Wadey, R., Hanton, S., and Jones, G. (2008). The development and maintenance of mental toughness: Perceptions of elite performers. *Journal of Sports Sciences*, 26(1): 83-95.
- Dow, K. E., Wong, J., Jackson, C., and Leitch, R. A. (2008). A comparison of structural equation modeling approaches: The case of user acceptance of information systems. *Journal of Computer*

- Information Systems, 48(4): 106-114.
- Erdem, M. (2008).** Development of the Scale of Motivation in Sports in American Football Athletes. Master's Thesis, Ankara University Institute of Health Sciences, Department of Physical Education and Sports, Ankara.
- George, D., and Mallery, M. (2010).** SPSS for Windows Step by Step: A Simple Guide and Reference (17.0 update). Boston: Pearson.
- Hooper, D., Coughlan, J., and Mullen, M. (2008).** Structural Equation Modelling: Guidelines for Determining Model fit. *Articles*, 2.
- Hox, J. J., and Bechger, T. M. (1995).** Comparing and Combining Different Approaches to the Multitrait-Multimethod Matrix.
- Kaiseler, M., Polman, R., and Nicholls, A. (2009).** Mental toughness, stress, stress appraisal, coping and coping effectiveness in sport. *Personality and Individual Differences*, 47(7): 728-733.
- Kayapınar, F. Ç., Temür, S., Akcan, F., and Temür, M. (2016).** Study on developing an attitude scale for combat sports. *International Journal of Sport, Exercise and Training Sciences*, 2(2): 82-88.
- Keklik, İ. (2010).** Developmental Psychology. Selim Bookstore, s.70-88.
- Munro, B. H. (2005).** Statistical Methods for Health Care Research (Vol. 1). Lippincott Williams & Wilkins.
- Özgüven, İ. E. (1999).** Psychological Tests. Ankara: PDREM Publications.
- Pehlivan, H. (2014).** Adapting the Mental Endurance Scale in Sports: Validity and Reliability Study. Celal Bayar University, Institute of Health Sciences, Department of Physical Education and Sports, Master's Thesis, Manisa.
- Ramazanoğlu, F., and Çoban B. (2004).** Determination of sports satisfaction levels of elite taekwondo players. *Firat University Journal of Social Sciences*, 14(2): 321-330.
- Rosenthal, R., and Rosnow, R. L. (1991).** Essentials of Behavioral Research: Methods and Data Analysis. Boston, MA.
- Schreiber, J. B., Nora, A., Stage, F. K., Barlow, E. A., and King, J. (2006).** Reporting structural equation modeling and confirmatory factor analysis results: A review. *The Journal of Educational Research*, 99(6): 323-338.
- Schumacker, R. E., and Lomax, R. G. (2004).** A Beginner's Guide to Structural Equation Modeling. Psychology Press.
- Şimşek, Ö. F. (2007).** Introduction To Structural Equation Modeling:(Basic Principles and LISREL Applications). Ekinoks.
- Tabachnick, B. G., and Fidell, L. S. (2007).** Using Multivariate Statistics. Allyn & Bacon/ Pearson Education.
- Tavşancıl, E. (2002).** Measuring Attitudes and Data Analysis with SPSS. Ankara: Nobel Publications.
- The World Taekwondo Federation (**WTF**) (1986). Taekwondo, Seoul Korea, <http://www.worldtaekwondo.org/> access date: 03.01.2019.
- Vealey, R. S. (1988).** Sport-confidence and competitive orientation: An addendum on scoring procedures and gender differences. *Journal of Sport and Exercise Psychology*, 10(4): 471-478
- Waltz, C. F., Strickland, O. L., and Lenz, E. R. (Eds.) (2010).** Measurement in Nursing and Health Research. Springer Publishing Company.
- Wang, J., and Wang, X. (2012).** Structural Equation Modeling: Applications Using Mplus. John Wiley & Sons.
- Yazıcıoğlu, Y., and Erdoğan, S. (2004).** SPSS applied scientific research methods. Ankara: Detay Publishing.
- Yücel, E. O. (2003).** Taekwondo Players' Levels of Conditionality and Persistent Anxiety and The Impact on Their Success in Competitions. Unpublished Master's Thesis, Gazi University Institute of Health Sciences, Ankara.
- <https://www.tdk.gov.tr>

Citation: Taşkın, C., and Bahadır, T. K. (2022). Examination of physical education and sports teacher candidates' views on combat sports. *African Educational Research Journal*, 10(3): 335-341.
